AMENDMENT TO THE CLAIMS

1. (currently amended): A head for use with a ~~moving~~ magnetic medium moving in a first direction, the head comprising:

a perpendicular writing element including a main pole having a main pole tip, a return pole connected to the main pole at a back gap and having a return pole tip positioned from ~~located downstream of~~ the main pole in the first direction ~~relative to the moving magnetic medium~~, a write gap between the main and return poles, and a conductive coil adjacent the main and return poles, wherein an area of a magnetic medium facing surface of the main pole tip is less than an area of a magnetic medium facing surface of the return pole tip; and

a reading element positioned in a second direction that is opposite the first direction from ~~upstream of~~ the perpendicular writing element ~~relative to the moving magnetic medium~~ and including a top shield, a bottom shield in the second direction from ~~upstream of~~ the top shield, and a read sensor positioned between the top and bottom shields.

2. (original): The head of claim 1, wherein the main and return poles are formed of a magnetically permeable material selected from a group consisting of CoZr, CoZrNb, $Ni_{45}Fe_{55}$, FeN, FeAlN, cobalt-iron (CoFe), cobalt-nickel-iron (CoNiFe), nickel-iron (NiFe), and iron (Fe).

3. (previously presented): The head of claim 1 including a non-magnetic layer separating the top shield from the writing main pole.

4. (original): The head of claim 3, wherein the non-magnetic layer is formed of silicon oxide (SiO_2), silicon nitride (Si_3N_4), aluminum oxide (Al_2O_3), or tantalum oxide (Ta_2O_5)

5. (original): The head of claim 1, wherein the non-magnetic layer is formed of a conductive layer sandwiched between insulating layers.

6. (original): The head of claim 5, wherein the conductive layer is copper (Cu), aluminum (Al), tantalum (Ta), or tungsten (W), and the insulating layers are aluminum oxide (Al_2O_3), silicon oxide (SiO_2), tantalum oxide (Ta_2O_5) or silicon nitride (Si_3N_4).

7. (original): The head of claim 1, wherein a thickness of the non-magnetic layer is approximately 1 micrometer or greater.

8. (original): The head of claim 1, wherein the gap layer defines a write gap of approximately 1 micrometer or less.

9. (original): A disc drive storage system including the read/write head of claim 1.

10. (currently amended): A head for use with a ~~moving~~ magnetic medium moving in a first direction, the head comprising a perpendicular writing element including a main pole having a main pole tip, a return pole connected to the main pole at a back gap and having a return pole tip positioned from ~~located downstream of~~ the main pole in the first direction ~~relative to the moving magnetic medium~~, a write gap between the main and return poles, and a conductive coil adjacent the main and return poles, wherein an area of a magnetic medium facing surface of the main pole tip is less than an area of a magnetic medium facing surface of the return pole tip.

11. (original): The head of claim 10, wherein the main and return poles are formed of a magnetically permeable material selected from a group consisting of CoZr, CoCzNb, $Ni_{45}Fe_{55}$, FeN, FeAlN, cobalt-iron (CoFe), cobalt-nickel-iron (CoNiFe), nickel-iron (NiFe), and iron (Fe).

12. (original): The head of claim 10, wherein the write gap is approximately 1 micrometer or less.

13. (original): A disc drive storage system including the head of claim 10.

14. (currently amended): A head for recording perpendicularly oriented magnetic patterns to a ~~moving~~ magnetic medium moving in a first direction, the head comprising main and return poles separated by a write gap, the return pole positioned from the main pole in the first direction ~~positioned upstream of the return pole relative to the moving magnetic medium~~, wherein the main pole includes a writing edge adjacent the write gap for defining transitions between adjoining magnetic patterns recorded to the magnetic medium.

15. (currently amended): The head of claim 14, wherein the main pole includes a main pole tip having a magnetic medium facing surface whose area is less than an area of a magnetic medium facing surface of a return pole tip of the return pole, the head includes:

a conductive coil adjacent the main and return poles adapted to induce magnetic flux therein;

a ~~perpendicular~~ reading element positioned in a second direction that is opposite the first direction from ~~upstream of~~ the main pole ~~relative to the moving~~

~~magnetic medium~~ and including a top shield, a bottom shield positioned in the second direction from ~~upstream of~~ the top shield ~~relative to the moving magnetic medium~~, and a read sensor positioned between the top and bottom shields; and

a non-magnetic layer separating the top shield from the main pole.

16. (original): The head of claim 15, wherein a thickness of the non-magnetic layer is approximately 1 micrometer or greater.

17. (original): The head of claim 15, wherein the non-magnetic layer is formed of a conductive layer sandwiched between insulating layers.

18. (original): The head of claim 17, wherein the conductive layer is copper (Cu), aluminum (Al), tantalum (Ta), or tungsten (W), and the insulating layers are aluminum oxide (Al_2O_3), silicon oxide (SiO_2), tantalum oxide (Ta_2O_5) or silicon nitride (Si_3N_4).

19. (currently amended): The head of claim 14, wherein the main pole includes a main pole tip having a magnetic medium facing surface whose area is less than an area of a magnetic medium facing surface of a return pole tip of the return pole, the head includes:

a conductive coil adjacent the main and return poles and adapted to induce magnetic flux therein; and

a ~~perpendicular~~ reading element positioned in the first direction from the main pole ~~downstream of the return pole relative to the moving magnetic medium~~ and including a top shield, and a read sensor positioned between the top shield and the return pole.

20. (currently amended): A head for use with a ~~moving~~ magnetic medium moving in a first direction, the head including a perpendicular writing element comprising:

a main pole having a main pole tip, the main pole configured to record magnetic patterns to the moving magnetic medium that are oriented substantially perpendicular to the main pole tip;

a return pole having return pole tip located in the first direction from ~~downstream of~~ the main pole ~~relative to the moving magnetic medium~~; and

a write gap between the main and return pole tips.

21. (previously presented): The head of claim 20, wherein a magnetic medium facing surface of the return pole tip has an area that is greater than an area of a magnetic medium facing surface of the main pole tip.

22. (currently amended): The head of claim 20 including a reading element ~~positioned downstream of the writing element relative to the moving magnetic medium~~.

23. (currently amended): The head of claim 20 including a reading element positioned in a second direction that is opposite the first direction from ~~upstream of~~ the writing element ~~relative to the moving magnetic medium~~.

24. (previously presented): The head of claim 20, wherein the magnetic medium is formed on a disc.

25. (currently amended): The head of claim 10 including a reading element positioned in the first direction from ~~downstream of~~ the perpendicular writing element ~~relative to the moving magnetic~~

~~medium~~ and including a top shield, and a read sensor positioned between the top shield and the return pole.